

US EPA ARCHIVE DOCUMENT

1. CHEMICAL:

Chemical name: 2-Chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl)acetamide

Common name: Metolachlor
Trade names: Dual and Medal
Structure:

2. TEST MATERIAL:

Metolachlor

3. STUDY/ACTION TYPE

Review of quarterly report for metolachlor small-scale prospective monitoring study

4. STUDY IDENTIFICATION:

Title: A Small-Scale Prospective Ground Water Monitoring Study for Metolachlor (Dual) at a Worst-Case Vulnerable Site in the Southeastern United States. Progress Report #2.

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Identifying No.: 108801
DP Barcode: D222992
Date Sent to EFED: 2/14/96

5. REVIEWED BY:

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6. APPROVED BY:

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7. CONCLUSIONS:

This quarterly report is acceptable. As requested in the review of the first quarterly report, CIBA performed LC/MS analyses for metolachlor and degradates when bromide levels were detected above the background level of 200 ppb. Previously CIBA intended to analyze for metolachlor and degradates when the bromide was detected at 1.0 ppm or greater.

The bromide tracer appeared in deeper lysimeter samples during this quarter, with concentrations increasing through day 150 after treatment. Metolachlor degradate CGA-51202 was detected in lysimeter cluster number 2 during sampling events 8 through 10, at concentrations of 0.18, 14 and 19 ppb, respectively. Neither the tracer nor metolachlor has yet been detected in ground water.

CIBA recently informed EFGWB that it had confirmed the existence of an ESA degradate of metolachlor, which may account for as much as 12% of applied metolachlor. Until such time that CIBA determines whether the ESA metabolite can be detected with the current ELISA method, it should be analyzed using the "mild-extraction" LC/MS CIBA used to identify the degradate. The results of the analyses from sampling events 8 through 10 give some indication that the ELISA method will not be successful in detecting metolachlor ESA. Although degradate CGA-51202 was present at levels as great as 19 ppb (by LC/MS), the ELISA method did not detect any metolachlor-related analytes.

8. RECOMMENDATIONS:

Following the recent discovery of the metolachlor ESA metabolite, Monsanto should add this degradate to its suite of analytes, starting with the next scheduled sampling event.